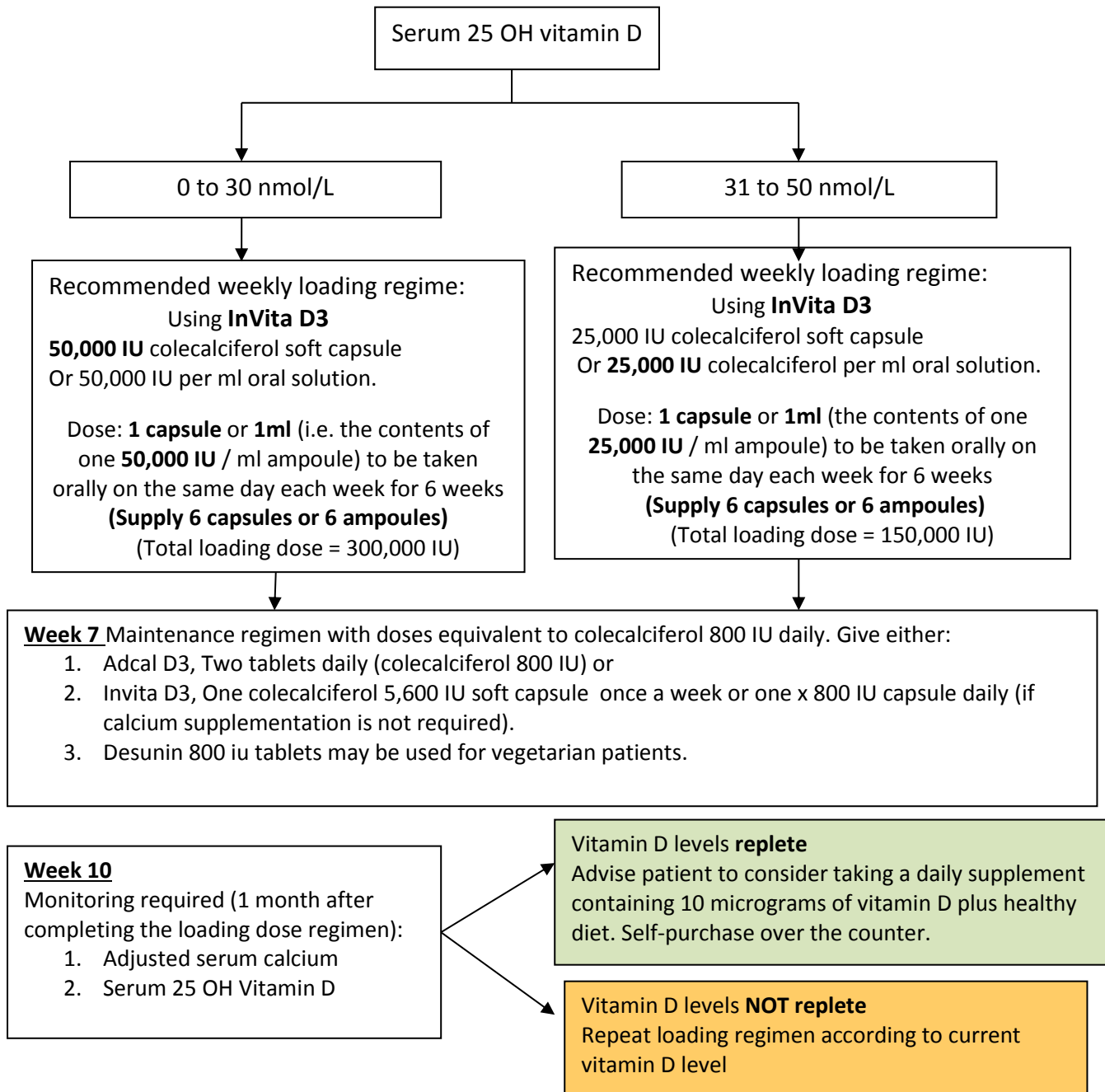


**Clinical Guideline for management of Vitamin D Deficiency  
In adult patients with renal function with a GFR >30ml/min**

Vitamin D thresholds (in accordance with IOM and DH Guidelines)	
Deficiency	Serum 25OHD <30 nmol/L
Insufficiency	Serum 25OHD 30-50 nmol/L
Replete	Serum 25OHD >50 nmol/L
Toxicity	Serum 25OHD >400 nmol/L

**Protocol for management**



Calcium/vitamin D combinations should not be used as sources of vitamin D for the above loading regimens, given the resulting high dosing of calcium.

Please note that doses of colecalciferol should be quoted in international units not micrograms. However, 1 IU = 0.025 microgram colecalciferol; 400 IU = 10 microgram colecalciferol

Absolute	Discretionary
Fragility fracture > 50 years	Widespread chronic musculoskeletal pain
Falls in > 65years	Other conditions e.g. intestinal malabsorption
Patient starting bone specific therapy e.g. denosumab, zoledronate	Lifestyle associated with vitamin D deficiency. People with low or no exposure to the sun e.g. full cover clothing when outside, other reasons to avoid sunlight such as adverse drug reactions
Enzyme inducing antiepileptic drugs e.g. Carbamazepine, lamotrigine, oxcarbazepine, phenobarbitone, phenytoin, primidone, topiramate	

- Universal screening of asymptomatic populations is not recommended.

#### Monitoring required:

- Adjusted serum calcium should be checked 1 month after completing the loading or after starting vitamin D supplementation in case primary hyperparathyroidism has been unmasked.
- Serum 25 OH Vitamin D should be checked 1 month after completing the loading regimen.
- Routine monitoring is generally not necessary but may be appropriate in patients with symptomatic vitamin D deficiency or malabsorption is suspected.
- Routine testing is not necessary in patients taking calcium and vitamin D supplementation with oral bisphosphonates or strontium ranelate.

#### Estimating patient's daily dietary calcium intake (approximate values)

1 pint milk (or equivalent)	= 600 - 650mg	Sardines in oil	= 500mg/100g
1 serving cheese	= 200mg/oz	Tuna in oil	= 12mg/100g
1 small pot of yoghurt	= 150 - 200mg		

Calcium rich food leaflet is available to download at:

<http://www.nos.org.uk/NetCommunity/Document.doc?id=395>

#### Treatment of vitamin D deficiency in pregnancy and breast feeding

- In line with the guidance from Royal College of Obstetricians and Gynaecologists, MKPAG recommends a treatment dose of Fultium D3 20,000 IU per week for 4 to 6 weeks, followed by a maintenance dose of InVita D3 800 IU daily. The maintenance therapy should be continued throughout the pregnancy.
- Also in line with the Royal College of Obstetricians and Gynaecologists Guidance, treatment doses should not be given in the first trimester.

#### Vitamin D insufficiency in pregnancy and breast feeding

- In line with the guidance from Royal College of Obstetricians and Gynaecologists, MKPAG recommends a dose of up to 2000 IU daily. This can be prescribed as one or two Invita D3 800 IU daily and should be continued throughout the pregnancy.
- For supplementation in pregnancy and breast feeding, MKPAG recommends either Healthy Start vitamins if the woman is eligible or self purchase over-the-counter. These products should not be recommended or supplied as prescribed medication.

Please see <https://www.formularymk.nhs.uk/includes/documents/Vitamin-D-in-Children-with-normal-renal-function-Updated-January-2017.pdf> for guidelines on the management of **Vitamin D deficiency in children**

#### References:

1. SACN Vitamin D report <https://www.gov.uk/government/publications/sacn-vitamin-d-and-health-report>
2. Public Health England advice <https://www.gov.uk/government/news/phe-publishes-new-advice-on-vitamin-d>
3. Royal College of Obstetricians and Gynaecologists *Guidance* <https://www.formularymk.nhs.uk/includes/documents/Guidance-for-Vitamin-D-supplementation-in-pregnancy-1.pdf>